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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/874,591	06/05/2001	James D. Keeler	PAVI-25,759	6543
25883	7590	03/04/2004	EXAMINER	
HOWISON & ARNOTT, L.L.P.			BOOKER, KELVIN E	
P.O. BOX 741715			ART UNIT	
DALLAS, TX 75374-1715			PAPER NUMBER	

2121

DATE MAILED: 03/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/874,591

Applicant(s)

KEELER ET AL.

Examiner

Kelvin E Booker

Art Unit

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2003.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-32 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 21-32 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: Detailed Office Action.

DETAILED ACTION

Response to Amendment

1. In Amendment "B", filed December 12, 2003 (see paper no. 7), independent **claims 21 and 27** have been amended.
2. **Claims 21-32** are presented for further consideration.

Response to Arguments

3. Applicant's arguments with respect to **claims 21-32** have been considered but are moot in view of the new ground(s) of rejection.

Specification

4. The abstract of the disclosure is objected to because the disclosure exceeds 150 words in length. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. **Claims 21-32** are rejected under 35 U.S.C. 102(e) as being anticipated by Keeler et al., U.S. Patent No. 6,002,839 [hereafter Keeler].

As per claim 21, Keeler teaches of a method for determining an output value having a known relationship to an input value with a predicted value *that has errors associated therewith*, comprising the steps of:

A. training a predictive model with a set of known outputs for a given set of inputs that exist in a finite dataset, whereby *each known output has a fixed and defined relationship to one or more of the inputs within the given set of inputs* (see Abstract, lines 1-17; column 5, lines 10-18; and column 16, lines 26-36: training a prediction model respective of outputs);

B. inputting data to the predictive model that is within the set of given inputs (see column 4, lines 47-57; column 16, lines 29-33; and column 18, lines 14-17: inputting data into the predictive model); and

C. predicting an output from the predictive model that corresponds to the given input data, such that a predicted output value will be obtained which will have associated therewith the errors of the predictive model *as compared to the actual fixed and defined relationship* (see column 16, lines 26-42; column 18, lines 17-26; and column 19, line 51 through column 20, line 3: predictive output, respective of fixed and defined stored data preprocessing parameters input during training, whereby minimizing errors presents an accurate representation of system model).

As per claim 22, Keeler teaches of a method wherein the predictive model is a non-linear model (see column 4, lines 47-51; and column 16, lines 9-14: non-linear training model).

As per claim 23, Keeler teaches of a method wherein the set of known outputs for a given set of inputs is derived from at least one physical property table (see column 15, line 61; column 16, lines 3-5; and figure 15(a), element 176: table containing preprocess data).

As per claim 24, Keeler teaches of a method wherein the set of known outputs for a given set of inputs is derived from a plurality of physical property tables (see columns 11-13: table data).

As per claim 25, Keeler teaches of a method wherein the predictive model includes at least one input that is a discriminating input to define which of said tables is associated with the inputs, such that processing the input through the predictive model will process it through a learned representation of only that table (see column 11).

As per claim 26, Keeler teaches of a method wherein the predictive model is trained on less than all of the data in the physical property tables (see column 16, lines 33-42: data adjustments based upon training algorithm).

As per claim 27, Keeler teaches of a method for defining the relationship of output variables to input variables in a spreadsheet, *wherein each output variable faces a known and fixed relationship with one or more of the input variables*, comprising the steps of:

A. defining a set of input variables (see Abstract, lines 14-17: defining preprocess parameters during training);

B. defining at least one output variable that has a known and fixed relationship with *one or more of the input variables*, which known *and fixed* relationship between the output variables

and the input variables is contained in a dataset (see Abstract, lines 14-17; and column 4, lines 9-20 and lines 47-57: defining output variables respective of inputs wherein stored model parameters are used during training); and

C. determining the value of the output variable from the input variable by mapping the input variable through a stored representation of the dataset *with the known and fixed relationship represented therein* in a predictive model to predict the output variable from the stored representation and replacing the previous value of the corresponding output variable with the predicted value for the output variable (see column 19, line 51 through column 20, line 3).

As per claim 28, Keeler teaches of a method wherein the step of mapping comprises mapping the input variable through a stored representation of the dataset in a nonlinear predictive model (see column 4, lines 47-51; and column 16, lines 9-14; and column 19, lines 54-57: mapping within a non-linear training model).

As per claim 29, Keeler teaches of a method wherein the stored representation represents less than all of the data within the dataset (see column 16, lines 33-42: data adjustments based upon training algorithm column).

As per claim 30, Keeler teaches of a method wherein the dataset comprises a physical property table and the input variables and the output variables comprise physical properties that are within the physical property table (see figure 15(a), element 176).

As per claim 31, Keeler teaches of a method wherein there is a known output within the dataset for each of the input variables utilizing the step of determining (see figure 9, element 142).

As per claim 32, Keeler teaches of a method wherein the step of determining is initiated in response to the input of a change to any one of the defined set of inputs, wherein the inputs and outputs are arranged in columns and rows in the spreadsheet (see column 4, lines 8-20: data formats for manageability).

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. An inquiry concerning this communication or earlier communications from the examiner should be directed to Kelvin Booker whose telephone number is (703) 308-4088. The examiner can normally be reached on Monday-Friday from 7:00 AM-5:30 PM EST.

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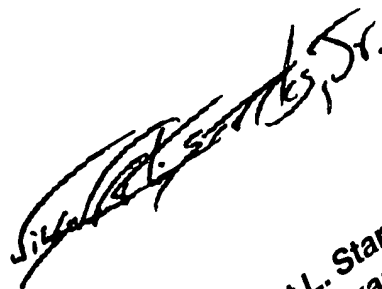
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anil Khatri, can be reached on (703) 305-0282. The fax number for the organization where this application or proceeding is assigned is (703) 872-9306.

An inquiry of a general nature or relating to the status of this application proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

K.E.B.

Art Unit 2121

March 2, 2004



Wilbert L. Starks, Jr.
Primary Examiner
Art Unit - 2121